

9 Tips for Supporting Inquiry in the Classroom



Inquiry-based learning in the classroom starts with exploration, asking questions, and building understanding of the concept at hand. When teachers ask good questions, students get motivated and curious, and seek out new knowledge. New standards and assessments also require that teachers increase rigor and inquiry in their classrooms.

But how do you go about supporting inquiry? And what does an inquiry-based classroom look like?

To support inquiry in your classroom, it's important to not just ask questions but to ask **effective questions**:

1) Make sure your questions are clear.

Plan your questions ahead of time so you can get the wording just right. **When questions are clear, students don't have to spend time figuring out what you mean** and can instead focus on the answer.

2) Figure out your lesson objectives.

What do you want your students to learn in the lesson? Organize your questions logically so you can move students toward those objectives and support their learning.

3) Ask open-ended questions.

It's way more effective to ask questions that encourage students to think. Ask them questions with more than one right answer instead of just "yes" or "no." Ask, "What are your observations?" instead of a question like, "What color is the bug?"

4) Ask higher-level questions.

As you plan your questions, keep a Bloom's revised taxonomy reference handy. Be ready with questions from the higher levels of Bloom's. Asking questions from the lower levels on the fly is relatively easy, but it can be much harder to spontaneously come up with a good Analyze or Evaluate question. **Preparation is key!**

5) Include everyone when you ask questions.

Engage all of your students in a whole class lesson. One strategy is to count the number of students with hands raised before calling on one. "One person has an answer. Two, three." When students see that you want to know how many people have an answer before selecting one, more will join in.

6) Give students time to think.

Provide students with ample wait time so that they can process the question and formulate an answer. Mentally, count off 3-5 seconds at a minimum before taking an answer.

7) Don't judge students' responses.

Research (Rowe, 1974) shows that when teachers respond to students' responses with negative or even positive comments such as, "Good job!" or "Not quite," students will respond less often. Rather than offering judgment in your responses to students, reply with neutral comments like "Thank you."

8) Encourage deeper thinking with follow-up questions.

A great follow-up question is, "What evidence supports your answer?" This prompts students to provide not only the "why" behind their answer but also specific evidence.

9) Ask the whole class to weigh in.

In addition to asking the responding student follow-up questions, it is beneficial to ask the rest of the class to weigh in with a hand signal. Use a thumbs up to indicate agreement, thumbs down for disagreement and a thumbs to the side if the answer is okay, but there is something missing that would allow for full agreement. With this strategy, all your students are thinking deeper about the answer given, not just the responding student.

As you work on building your own questioning skills to support inquiry, **set goals for yourself and monitor your progress against those goals.**

Don't try to master everything at once! Begin with improving your wait time after asking a question. Once you have mastered wait time, you can work on eliminating judgmental comments to student responses, and then asking more questions from the higher levels of Bloom's Revised Taxonomy.

To monitor your progress, videotape your inquiry lessons and analyze your question types, wait time, or other metrics for effective techniques. If a video camera isn't available, ask a colleague to observe a lesson and collect data on your current questioning goal.

One website that can help you go deeper with math and science inquiry is www.explorelearning.com. Sign up for a free trial to see how Gizmos, as well as the accompanying teaching and lesson materials with great questions at various levels of Bloom's Revised Taxonomy, can help you support inquiry with your students.

ExploreLearning® develops online solutions to improve student learning in math and science. ExploreLearning currently has two products: Gizmos®, the world's largest library of interactive, online simulations for math and science in grades 3-12; and Reflex®, the most powerful solution available for math fact fluency development. Gizmos and Reflex bring research-proven instructional strategies to classrooms around the world. For more information about Gizmos, please visit www.explorelearning.com. For more information about Reflex, please visit www.reflexmath.com.